

ABSTRACT

The present invention provides an isolated nucleic acid comprising a single retroviral LTR, a polypurine tract, a packaging signal, a primer binding site and a rev responsive element. Further provided is an isolated nucleic acid comprising a heterologous nucleotide sequence, a single retroviral long terminal repeat (LTR), a packaging signal, a rev responsive element, a polypurine tract, a eukaryotic promoter, a primer binding site, a bacterial origin of replication and a bacterial selection marker. In addition, the present invention provides an isolated nucleic acid comprising a 5' retroviral LTR and a 3' retroviral LTR, a heterologous nucleotide sequence, a packaging signal, a rev responsive element, a polypurine tract, a eukaryotic promoter, a primer binding site, a bacterial origin of replication and a bacterial selection marker cassette, wherein the bacterial origin of replication and bacterial selection marker are located between the two LTRs.